

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First named inventor: Gi Youl Kim

Application No.: 10/791,334

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Examiner: Turocy, David P.

Art Unit: 1792

Docket No.: 40004551-0025-002

Confirmation No.: 2408

Customer No : 26263

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

INTERVIEW SUMMARY

Sir:

A telephone interview with Examiner Turocy took place on February 28, 2011. Participating in the interview were Tom Seidel, Brian Lu and the undersigned attorney of record.

Proposed amendments to claim 1, as shown below, were discussed.

1. (Currently Amended) An atomic layer deposition (ALD) process using starved reactions, said ALD process comprising:

exposing a wafer to a starved dose of a first chemically reactive precursor, said starved dose being selected to yield less than one-half of a dose value required for a maximum saturated ALD growth rate, measured in film thickness per ALD process cycle, for said first chemically reactive precursor, wherein said first chemically reactive precursor is a soft saturating precursor characterized by an onset of a slow increase in ALD growth rate with further increases of precursor exposure dose and having a longer saturation time as compared to a second chemically reactive precursor to follow the first chemically reactive precursor, and the exposure to the

starved dose of the first chemically reactive precursor determines a value of a starved saturation ALD growth rate, measured in film thickness per ALD process cycle, for a second chemically reactive precursor to follow the first chemically reactive precursor; and

exposing the wafer to a dose of the second chemically reactive precursor, the dose of the second chemically reactive precursor selected for achieving starved saturation of the second chemically reactive precursor under variations in dose of the second chemically reactive precursor, said starved saturation characterized by an ALD growth rate, measured in film thickness per ALD process cycle, of the second chemically reactive precursor being less than half of a maximum saturated ALD growth rate, measured in film thickness per ALD process cycle, for the second precursor,

wherein:

said starved dose of said first chemically reactive precursor and the dose of the second chemically reactive precursor are selected to obtain a maximum starved ALD process film deposition rate as measured in film thickness per unit time for the first and second chemically reactive precursors, and

said first and second chemically reactive precursors are delivered sequentially in time and in a manner so as to provide a substantially uniform film deposition on the wafer,

In addition, a proposed declaration to rebut the rejection under 35 USC 112, first paragraph was discussed. The declaration would address the factors set forth in *In re Wands*, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

No final agreement as to patentability was reached, however, it was agreed to submit the declaration and amendments with an RCE for further consideration. If there are any additional fees associated with this communication, please charge Deposit Account No.: 19-3140.

Respectfully submitted,

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